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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/721,326	11/22/2000	Michael J. Barrett	A0602/7002	7238

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[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2662

DATE MAILED: 05/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/721,326	BARRETT ET AL.
	Examiner	Art Unit
	Joe Logsdon	2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 April 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8, 10, 12-22, 24, 27-31, 35 and 40-120 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-8, 10, 12-22, 24, 27-31, 35 and 40-120 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) Other:

Claim Rejections—35 U.S.C. 102(b):

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 15-17, 19-22, 24, 29-31, 35, 68, and 98 are rejected under 35 U.S.C. 102(b) as being anticipated by Simon et al.

With regard to claims 1, 15, 30, 68, and 98, Simon et al. discloses a system and method for providing information to at least one destination in an area where signal coverage is not available from an information source (abstract). The destination can be part of a passenger vehicle because the invention can enable information transmission between aircraft (column 2, lines 51-58). The invention inherently creates a communication network because the invention allows communication between source and destination to proceed in situations in which such communication would otherwise not be possible. The relay systems are carried on passenger vehicles (“aerodynes”) (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The information carrying signal is inherently received by a first movable receiver/transmitter unit within a signal coverage area of the information source, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to its destination because an information source (“emitting station”) transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination (abstract). The destination inherently includes a receiver because it is a

“receiving station” (abstract). Relay systems are carried on passenger vehicles (“aerodynes”) (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The information carrying signal is inherently received by a movable receiver/transmitter unit within a signal coverage area of the information source, the information signal is inherently re-transmitted by a movable receiver/transmitter to its destination, and the information source inherently includes a transmitter because an information source (“emitting station”) transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination (abstract). The destination inherently includes a receiver because it is a “receiving station” (abstract). Simon et al. teaches that the method could be extended to use radar, which is a directional antenna (column 5, lines 32-35). Simon et al. discloses a system and method for providing information to passenger vehicles along a signal pathway (i.e., the path traversed by the signal as it propagates from source, to passenger vehicle to passenger vehicle, to destination) (abstract). Relay systems are carried on passenger vehicles (“aerodynes”) (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The destination can be part of a passenger vehicle because the invention can enable information transmission between aircraft (column 2, lines 51-58). The information carrying signal is inherently received by a first movable receiver/transmitter unit, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to another passenger vehicle because an information source (“emitting station”) transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination, which can also be a passenger vehicle (abstract; column 2, lines 51-58). The destination inherently includes a receiver because it is a “receiving station” (abstract).

With regard to claim 16, the transceiver onboard each aerodyne in Simon et al. is inherently located in an area where there is an already existing communication channel because the transceiver communicates. According to the most general definition of channel, a channel is simply a path along which a signal can be sent. If no such channel existed in the area of the transceiver onboard an aerodyne, the aerodyne would therefore be unable to communicate.

With regard to claim 17, Simon et al. teaches that there can be more than one relay system-equipped aerodyne involved in the communication from source to destination (Fig. 1; column 2, lines 38-41; column 2, lines 59-64).

With regard to claim 19, Simon et al. teaches that the passenger vehicles are aircraft (“aerodynes”) (abstract).

With regard to claims 20-22 and 24, Simon et al. teaches that the positions and directions of motion of the passenger vehicles can change in an almost random manner from one instant to another (column 2, lines 42-47). The passenger vehicles can therefore be located on the same pathway or a parallel pathway or an intersecting pathway, and can travel in the same or opposite directions or to or from the intersections of their pathways regardless of their relative locations or pathways.

With regard to claim 29, each aerodyne in Simon et al. is inherently both a pathway station and a pathway control station because each aerodyne monitors the passenger vehicles (other aerodynes) along a pathway because aerodynes can link up with each other momentarily to pass information in the form of data packets between each other when necessary (column 1, line 64 to column 5, line 5); each aerodyne is inherently coupled to itself; each aerodyne is inherently coupled to an existing packet-based data network because it forwards received data

packets to other aerodynes or to the destination (column 1, lines 50-55; column 64 to column 2, line 5); and each aerodyne inherently controls communication between itself and the existing packet-based data network because each aerodyne is part of the existing packet-based data network (column 1, lines 50-55; column 64 to column 2, line 5).

With regard to claims 31 and 35, Simon et al. teaches that the positions and directions of motion of the passenger vehicles can change in an almost random manner from one instant to another (column 2, lines 42-47). The passenger vehicles can therefore be located on the same pathway or a parallel pathway or an intersecting pathway, and can travel in the same or opposite directions or to or from the intersections of their pathways regardless of their relative locations or pathways.

Claim Rejections—35 U.S.C. 102(e):

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C.

122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 15, 16, 30, 68, and 98 are rejected under 35 U.S.C. 102(e) as being anticipated by Drummer.

With regard to claims 1, 15, 30, 68, and 98, Drummer discloses a system and method for providing information to at least one destination in an area where signal coverage is not available from an information source; “signal coverage is not available” means that there is no guarantee of reliable radio communication (abstract; column 3, lines 9-28, especially lines 11-18). The destination can be part of a passenger vehicle because the invention can enable information transmission between a geostationary station and a missile (column 3, lines 18-28). The invention inherently creates a communication network because the invention allows communication between source and destination to proceed in situations in which such communication would otherwise not be possible. The relay systems are carried on passenger vehicles (satellites, which can be LEO satellites, which move relative to the earth and can carry astronauts) (Fig. 1; column 3, lines 29-31; column 3, line 66 to column 4, line 3). Each satellite inherently comprises a transceiver because it transmits and receives (column 3, lines 29-36). Each missile comprises a transceiver (Fig. 2). Therefore, each passenger vehicle comprises a transceiver. The information carrying signal is inherently received by a first movable receiver/transmitter unit within a signal coverage area of the information source, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to its destination because information is exchanged between a stationary station (12 in Fig. 1) and a

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moving station (11 in Fig. 1) (column 3, lines 9-12), and the information is transmitted from the earth station to the satellite and then to the destination (the missile) (abstract; column 3, lines 29-36). The destination inherently includes a receiver because it receives the information (column 3, lines 9-12). Relay systems are carried on passenger vehicles (satellites, which can be LEO satellites, which move relative to the earth and can carry astronauts) (Fig. 1; column 3, lines 29-31; column 3, line 66 to column 4, line 3). Each satellite inherently comprises a transceiver because it transmits and receives (column 3, lines 29-36). Each missile comprises a transceiver (Fig. 2). Therefore, each passenger vehicle comprises a transceiver. The information carrying signal is inherently received by a first movable receiver/transmitter unit within a signal coverage area of the information source, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to its destination because information is exchanged between a stationary station (12 in Fig. 1) and a moving station (11 in Fig. 1) (column 3, lines 9-12), and the information is transmitted from the earth station to the satellite and then to the destination (the missile) (abstract; column 3, lines 29-36). The destination inherently includes a receiver because it receives the information (column 3, lines 9-12). Drummer discloses a system and method for providing information to passenger vehicles along a signal pathway (i.e., the path traversed by the signal as it propagates from source, to passenger vehicle, to destination) (abstract; column 3, lines 29-36). Relay systems are carried on passenger vehicles (satellites, which can be LEO satellites, which move relative to the earth and can carry astronauts) (Fig. 1; column 3, lines 29-31; column 3, line 66 to column 4, line 3). Each satellite inherently comprises a transceiver because it transmits and receives (column 3, lines 29-36). Each missile comprises a transceiver (Fig. 2). Therefore, each passenger vehicle comprises a transceiver. The information

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carrying signal is inherently received by a first movable receiver/transmitter unit within a signal coverage area of the information source, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to its destination because information is exchanged between a stationary station (12 in Fig. 1) and a moving station (11 in Fig. 1) (column 3, lines 9-12), and the information is transmitted from the earth station to the satellite and then to the destination (the missile) (abstract; column 3, lines 29-36). The destination inherently includes a receiver because it receives the information (column 3, lines 9-12).

With regard to claim 16, the transceiver onboard each aerodyne in Drummer is inherently located in an area where there is an already existing communication channel because the transceiver communicates. According to the most general definition of channel, a channel is simply a path along which a signal can be sent. If no such channel existed in the area of the transceiver onboard an aerodyne, the aerodyne would therefore be unable to communicate.

Claim Rejections—35 U.S.C. 103(a):

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 18 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al. in view of Rootsey et al.

With regard to claim 18, Simon et al. fails to teach that the passenger vehicles can be ground vehicles. Rootsey et al. teaches that the passenger vehicles can be trains (abstract). Trains are ground vehicles. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the passenger vehicles are ground vehicles, as in Rootsey et al. because such an arrangement would allow the passenger vehicles to be easily accessed for maintenance.

With regard to claim 28, Simon et al. fails to teach that a supplemental network communicates directly with a passenger vehicle that is located in an area where there are insufficient passenger vehicles available to provide a signal to the passenger vehicle. Rootsey et al. teaches that where supplemental networks exist, i.e., in populated areas with licensed terrestrial broadcasters, the repeater onboard the passenger vehicle (“vehicle”) is shut down (abstract). Because it is shut down, the passenger vehicle is “unavailable” in the sense that it does not provide its service to passenger vehicles located in areas with supplemental networks. This suggests the converse, i.e., this suggests an arrangement in which supplemental networks provide

the same service when movable repeaters are unavailable. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that a supplemental network communicates directly with a passenger vehicle that is located in an area where there are insufficient passenger vehicles available to provide a signal to the passenger vehicle, as suggested by Rootsey et al., because such an arrangement would ensure that a communication path always exists.

9. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al. in view of Drummer.

With regard to claim 27, Simon et al. fails to teach that at least one of the passenger vehicles is not located on a pathway. Drummer teaches satellites, which are inherently not located along the pathway of a missile; this must be so, for otherwise the missile would destroy the satellite (Fig. 1). It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that at least one of the passenger vehicles is not located on a pathway, as in Drummer, because such an arrangement would help ensure that collisions between passenger vehicles do not occur.

10. Claims 2-8, 10, 12-14, 16-17, 19-22, 24, 29-31, 35, 40-67, 69-89, 90-97, and 99-120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al.

With regard to claim 90, Simon et al. discloses a system and method for providing information to at least one destination in an area where signal coverage is not available from an information source (abstract). The destination can be part of a passenger vehicle because the

invention can enable information transmission between aircraft (column 2, lines 51-58). The invention inherently creates a communication network because the invention allows communication between source and destination to proceed in situations in which such communication would otherwise not be possible. The relay systems are carried on passenger vehicles (“aerodynes”) (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The information carrying signal is inherently received by a first movable receiver/transmitter unit within a signal coverage area of the information source, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to its destination because an information source (“emitting station”) transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination (abstract). The destination inherently includes a receiver because it is a “receiving station” (abstract). Relay systems are carried on passenger vehicles (“aerodynes”) (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The information carrying signal is inherently received by a movable receiver/transmitter unit within a signal coverage area of the information source, the information signal is inherently re-transmitted by a movable receiver/transmitter to its destination, and the information source inherently includes a transmitter because an information source (“emitting station”) transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination (abstract). The destination inherently includes a receiver because it is a “receiving station” (abstract). Simon et al. teaches that the method could be extended to use radar, which is a directional antenna (column 5, lines 32-35). Simon et al. discloses a system and method for providing information to passenger vehicles along a signal

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pathway (i.e., the path traversed by the signal as it propagates from source, to passenger vehicle to passenger vehicle, to destination) (abstract). Relay systems are carried on passenger vehicles (“aerodynes”) (abstract). Each passenger vehicle (aerodyne) comprises a transceiver (column 2, lines 48-50). The destination can be part of a passenger vehicle because the invention can enable information transmission between aircraft (column 2, lines 51-58). The information carrying signal is inherently received by a first movable receiver/transmitter unit, and the information signal is inherently re-transmitted by the first movable receiver/transmitter to another passenger vehicle because an information source (“emitting station”) transmits the signal, and the information carried by the signal is transmitted from one relay system to another relay system up to its destination, which can also be a passenger vehicle (abstract; column 2, lines 51-58). The destination inherently includes a receiver because it is a “receiving station” (abstract). Simon et al. fails to teach that the information is provided for access by a passenger associated with the second passenger vehicle. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that the information is provided for access by a passenger associated with the second passenger vehicle because a passenger in the second passenger vehicle may desire to have access to the information.

With regard to claims 2-8, 10, 12-14, 16-17, 19-22, 24, 29-31, 35, 40-67, 69-89, 91-97, and 99-120, Simon et al. fails to teach all the limitations of claims 2-8, 10, 12-14, 16-17, 19-22, 24, 29-31, 35, 40-67, 69-89, 91-97, and 99-120. Examiner takes Official Notice that all the limitations of claims 2-8, 10, 12-14, 16-17, 19-22, 24, 29-31, 35, 40-67, 69-89, 91-97, and 99-120 have been well known in the art. It would have been obvious to one of ordinary skill in the art to modify the invention of Simon et al. so that it satisfies each of the limitations specified in

claims 2-8, 10, 12-14, 16-17, 19-22, 24, 29-31, 35, 40-67, 69-89, 91-97, and 99-120 because Examiner takes Official Notice that all the limitations of claims 2-8, 10, 12-14, 16-17, 19-22, 24, 29-31, 35, 40-67, 69-89, 91-97, and 99-120 have been well known in the art as effective means for enhancing the services available to those who use transmission relay systems for communication.

Response to Arguments:

11. Applicant argues that, whereas Simon teaches half duplex, the claimed invention concerns full duplex. But the claims do not specify full duplex.

Applicant argues that Simon fails to mention that the aerodynes are on pathways. But they, as well as anything else that moves, must inherently be located on a pathway.

Applicant argues that the aerodynes in Simon are not located on fixed and known pathways. But the claims do not specify that the pathways are fixed and known.

Applicant argues that the signal in Simon is not sent along a pathway on which the vehicles are located. But because the signal in Simon et al. is sent from vehicle to vehicle, it must be sent along a pathway on which the vehicles are located.

Applicant argues that the antennae in Simon et al. are not directional because their ranges are represented as circles. This does not mean that the antennae are not directional. The range of a directional antenna that can rotate can be represented as a circle.

Applicant argues that the limitations added in the amendment are neither taught nor suggested by the prior art of record. This Office Action explains why they are indeed taught and/or suggested by the prior art of record.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Logsdon whose telephone number is (703) 305-2419. The examiner can normally be reached on Monday through Friday from 1:00 pm to 9:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached at (703) 305-4744.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

14. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9314

For informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Joe Logsdon

Patent Examiner

Tuesday, April 30, 2002



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